

CLAIMS

1. Lock apparatus comprising
a lockable joint including first and second hinge members coupled
5 together for rotation about an axis,
a lock movable between a locking position in which the hinge
members are locked to prevent the hinge members from rotating about the axis and a
releasing position in which the hinge members are unlocked to permit the hinge
members to rotate about the axis,
 - 10 a knob rotatable about the axis and movable along the axis, the lock
moving from the locking position to the releasing position in response to movement
of the knob axially toward the hinge members and then rotation of the knob about the
axis, and
a lock indicator member mounted for movement along the axis
 - 15 between a first position and a second position in response to axial movement of the
knob to allow a user to determine whether the hinge members are locked or unlocked
by observing whether the lock indicator member is in the first position or the second
position.
2. The lock apparatus of claim 1, wherein the lock indicator
20 member is arranged to move from the first position to the second position in response
to axial movement of the knob toward the hinge members.
 3. The lock apparatus of claim 1, wherein the lock indicator
member is arranged to move from the first position when the hinge members are
locked to the second position when the hinge members are unlocked in response to
25 axial movement of the knob toward the hinge members and then rotation of the knob
about the axis.
 4. The lock apparatus of claim 1, wherein the lockable joint
includes a drive shaft rotatable about the axis, the hinge plates are rotatably mounted
on the drive shaft, and the lock is coupled to the drive shaft for axial movement
30 toward and away from the hinge members.
 5. The lock apparatus of claim 4, wherein the drive shaft includes
a bore receiving the lock indicator member for axial movement therein, the lock

indicator member has a first end configured to engage the knob when the knob is moved axially toward the hinge members and a second end, and the lock is mounted on the lock indicator member near the second end for axial movement therewith.

6. The lock apparatus of claim 5, wherein the lockable joint
5 includes a cover and the second end of the lock indicator member extends through an opening in the cover when the hinge members are unlocked.

7. The lock apparatus of claim 6, wherein the second end of the lock indicator member retracts into the cover when the hinge members are locked.

8. The lock apparatus of claim 7, wherein the lockable joint
10 includes a spring biasing the lock toward the hinge members so that the second end of the lock indicator member retracts into the cover when the hinge members are locked.

9. The lock apparatus of claim 4, wherein the lock is rotatably mounted on the drive shaft and the knob is mounted on the drive shaft for rotation therewith.

15 10. The lock apparatus of claim 9, wherein the knob has a hub portion, the drive shaft has a non-round portion, and the hub portion of the knob has a complementary non-round bore receiving the non-round portion of the drive shaft so that the knob is movable axially along the drive shaft while transmitting the rotation of the knob to the drive shaft.

20 11. The lock apparatus of claim 1, wherein the lockable joint includes a cam configured to move the lock to the releasing position in response to movement of the knob axially toward the hinge members and then rotation of the knob about the axis.

25 12. The lock apparatus of claim 11, wherein the cam is mounted on the drive shaft for rotation therewith.

30 13. The lock apparatus of claim 1, wherein the lockable joint includes a cover, the lock indicator member has a first end configured to engage the knob when the knob is moved axially toward the hinge members and a second end, the lock is mounted on the lock indicator member near the second end for axial movement therewith, and the second end of the lock indicator member extends through an opening in the cover when the hinge members are unlocked.

14. The lock apparatus of claim 13, wherein the second end of the lock indicator member retracts into the cover when the hinge members are locked.

15. The lock apparatus of claim 14, wherein the lockable joint includes a spring biasing the lock toward the hinge members so that the second end of
5 the lock indicator member retracts into the cover when the hinge members are locked.

16. The lock apparatus comprising first and second hinge members that, when locked, are prevented from rotating about an axis and that, when unlocked, are permitted to rotate about the axis, and a lock indicator member arranged to move between a retracted position when the hinge members are locked and an extended
10 position when the hinge members are unlocked to allow a user to determine whether the hinge members are locked or unlocked by observing whether the lock indicator member is in the retracted position or the extended position.

17. The lock apparatus of claim 16, further comprising a cover, wherein an end of the lock indicator member extends through an opening in the cover
15 when the hinge members are in the unlocked.

18. The lock apparatus of claim 17, wherein the end of the lock indicator member retracts into the cover when the hinge members are locked.

19. The lock apparatus of claim 18, further comprising a spring biasing the lock indicator member toward the retracted position so that the end of the
20 lock indicator member retracts into the cover when the hinge members are locked.

20. The lock apparatus of claim 19, wherein the lock indicator member is arranged to move along the axis.

21. The lock apparatus of claim 20, further comprising a lock movable between a locking position in which the hinge members are locked and a
25 releasing position in which the hinge members are unlocked and a knob rotatable about the axis and movable along the axis, wherein the lock is arranged to move from the locking position to the releasing position in response to movement of the knob axially toward the hinge members and then rotation of the knob about the axis, and the lock indicator member is arranged to move along the axis from the retracted
30 position to the extended in response to movement of the knob.

22. The lock apparatus of claim 21, further comprising a drive shaft rotatable about the axis, and wherein the hinge members are rotatably mounted on the

drive shaft and the lock is coupled to the drive shaft for axial movement toward and away from the hinge members, and the knob is mounted on the drive shaft for rotation therewith.

23. The lock apparatus of claim 22, further comprising a cam
5 configured to move the lock to the releasing position in response to movement of the knob axially toward the hinge members and then rotation of the knob about the axis.

24. The lock apparatus of claim 23, wherein the cam is mounted on the drive shaft for rotation therewith.